

**FY05-LI(51)-130**

## **The Health Implications of the Mercury-Selenium Interaction**

Contractor: Energy & Environmental Research Center

Principal Investigator: Nicholas V.C. Ralston

### **PARTICIPANTS**

<b><u>Sponsor</u></b>	<b><u>Cost Share</u></b>
TVA	\$20,000
EPRI	\$35,000
DOE	\$53,846
NDIC	<u>\$50,000</u>
Total Cost	\$158,846

### **Project Schedule - 24 Months**

Contract Date – 6/24/04

Start Date – 7/1/04

Completion Date – ~~6/30/06~~

Extension to – 12/31/06

### **Project Deliverables**

Contract Signed: 7/1/04 (✓ )

Status Reports:

3/31/05 (✓ ); 12/31/05 (✓ )

Final Report – 12/31/06 ( )

### **OBJECTIVE / STATEMENT OF WORK:**

Explore interactions between mercury & selenium in experimental models designed to closely approximate human patterns of exposure. The project will examine the effects of dietary intakes of methylmercury and the protective effects of dietary selenium.

### **STATUS**

Through March 31, 2005. Initiated collaboration with a Slovenia research group studying Hg & Se in human brain and pituitary tissues.

Through December 31, 2005. Results from the animal study have been presented at five nationwide meetings. The results demonstrate that the selenium-dependent protective effects against mercury toxicity were quite evident. Tissue analysis of samples from the animal study is underway.

January 1 – March 31, 2006. Results from the animal study have been presented at six nationwide meetings. Results indicate no reliable risk assessment of the potential effects of mercury exposure can be made without concurrent consideration of the selenium status of the exposed individuals. Additional element and enzyme testing will continue.